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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,306	01/27/2004	Jan-Willem Pieterse	NFI-106/US	9348

7590 03/09/2006

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EXAMINER

ALLEN, STEPHONE B

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,306

Applicant(s)

PIETERSE ET AL.

Examiner

Stephone B. Allen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-17 and 20-22 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said physical parameter" in line 17. There is insufficient antecedent basis for this limitation in the claim.

Claims not specifically mentioned are indefinite due to their dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froggatt (5,798,521) in view of So et al. (5,179,420).

With respect to claims 1, 2, and 5-7, Froggatt discloses an apparatus for use with an optical sensor (fiber bragg grating) comprising a tunable laser 22 emitting light at an emission wavelength; means 12, 20 for varying emission (laser tuner); an optical path guiding the light to the optical sensor; a detector 16, 18 generates a response signal to the light; and an analysis module 12, 14 for analyzing the response signal.

Froggatt fails to disclose the inclusion of a wavelength meter coupled to monitor the emission wavelength of the laser. Froggatt and So et al (So) are of related for

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disclosing systems for monitoring an optical fiber arrangement. So discloses a wavelength meter 24 coupled as claimed for monitoring the emission of the laser. The wave meter is also coupled to a means for varying the emission of the laser. It would have been obvious for one of ordinary skill in the art to modify Froggatt to include a wave meter arrangement as disclosed in So in order to enhance measuring of the signal output the laser to more accurately adjust the wavelength as needed.

With respect to claims 3, 8 and 9, the modified Froggat fails to disclose the exact type of laser claimed the manner in which it is operated. However, the exact laser claimed would have been an obvious design modification, since they are considered functionally equivalent.

With respect to claim 11, the modified Froggat fails to disclose the inclusion of a tap for tapping light and coupling light to the wavelength meter. It would have been obvious for one of ordinary skill in the art to modify the system to include such an arrangement as a means on monitoring and controlling the intensity of the light emitted by the laser to enhance accuracy detection in the system.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Froggatt in view of So et al, and further in view of the publication "an active demodulation system for multiplexed FBG sensors" to Guan et al.

The modified Froggatt fails to disclose whereby the analysis module that performs the matching is performs curve fitting. Guan discloses the use of curve fitting as a means of determining the parameter determined. It would have been obvious for

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one of ordinary skill in the art to incorporate curve fitting as claimed in Guan into Froggat in order to obtain a higher resolution.

Allowable Subject Matter

Claims 12-17 and 20-22 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art fails to disclose, either singly or in combination, a method for determining a physical parameter affecting an optical sensor comprising determining said physical parameter by: detecting peaks in said response signal by applying a threshold level; identifying a full width half maximum of each peak; identifying a centroid of each peak from the full width half maximum; and making a fit to each peak.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments with respect to claims 1-17 and 20-22 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephone B. Allen whose telephone number is 571-272-2434. The examiner can normally be reached on M-F 08:30-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Stephone B. Allen". The signature is fluid and cursive, with the first name "Stephone" and last name "Allen" clearly distinguishable.

Stephone B Allen
Primary Examiner
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sba